

SEQUENCE LISTING

<110> Collmer, Alan
 Alfano, James R.
 Charkowski, Amy O.

<120> DNA MOLECULES AND POLYPEPTIDES OF PSEUDOMONAS SYRINGAE
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<151> 2000-04-03

<150> 60/224,604

<151> 2000-08-11

<150> 60/249,548

<151> 2000-11-17

<160> 91

<170> PatentIn Ver. 2.1

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<212> DNA

<213> Pseudomonas syringae

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<212> PRT
<213> Pseudomonas syringae

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Ala Val Thr Ala Gly Met Asn Pro Pro Leu Thr Pro Asp Gln Ser Gly
      35             40             45

Ser His Ala Thr Glu Ser Ser Ser Ala Gly Ala Ala Arg Leu Asn Val
      50             55             60

Ala Ala Arg His Thr Gln Leu Leu Gln Ala Phe Lys Ala Glu His Gly
      65             70             75             80

Thr Ala Pro Val Ser Gly Ala Pro Met Ile Ser Ser Arg Ala Ala Leu
      85             90             95

Leu Ile Gly Ser Leu Leu Gln Ala Glu Pro Leu Pro Phe Glu Val Met
      100            105            110

Ala Glu Lys Leu Ser Pro Glu Arg Tyr Gln Leu Lys Gln Phe Gln Gly
      115            120            125

Ser Asp Leu Gln Gln Arg Leu Glu Lys Phe Ala Gln Pro Gly Gln Ile
      130            135            140

Pro Asp Lys Ala Glu Val Gly Gln Leu Ile Lys Gly Phe Ala Gln Ser
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Val Ala Asp Gln Leu Glu His Phe Gln Leu Met His Asp Ala Ser Pro

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Lys	Ser	Glu	His	Gly	Glu	Leu	Val	Lys	Lys	Thr	Pro	Glu	Glu	Val	Ala	
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His Gln Ile Asn Gly Gln Thr Leu Ser Ala Arg Ala Leu Ala Ser Gly		
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Phe Gly Gly Ala Val Ser Ala Ser Ser Gln Thr Leu Leu Gln Leu Lys		
485	490	495
Ser Asn Tyr Val Asp Pro Gln Gly Arg Lys Ile Pro Val Phe Thr Pro		
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Asp Arg Ala Glu Ser Asp Leu Lys Lys Asp Leu Leu Lys Gly Met Asp		
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Leu Arg Glu Pro Ser Val Arg Thr Thr Phe Tyr Ser Lys Ala Leu Ser		
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Gln Ala Glu Gly Ala Ser Gly Thr Leu Ser Ala Gly Ala Ile Leu Arg		
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Tyr Thr Asn Gln Ser Val Thr Ala Glu Ala Lys Ala Leu Lys Ala Ala		
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 <212> DNA
 <213> Pseudomonas syringae

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<211> 164

<212> PRT

<213> *Pseudomonas syringae*

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Lys Ile Ser Glu Val Asp Phe Thr Leu Gln Phe Gln Asp Arg Asp Glu
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Gly Arg Ala Val Leu Ile Tyr Gly Asp Met Gly Ala Leu Pro Ala Arg
 50 55 60

Gly Arg Glu Ser Ala Leu Leu Ala Leu Met Asp Ile Asn Phe His Met
 65 70 75 80

Phe Ala Gly Ala His Ser Pro Ala Phe Ser Phe Asn Ala Gln Thr Gly
 85 90 95

Arg Val Leu Leu Met Gly Ser Val Ala Leu Glu Arg Ala Ser Ala Glu
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Gly Val Leu Leu Leu Met Lys Ser Phe Ser Asp Leu Ala Lys Glu Trp
 115 120 125

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<210> 7
 <211> 486
 <212> PRT
 <213> Pseudomonas syringae

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 35 40 45

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Ala	Thr	Ile	Ala	Asp	Thr	Phe	Ala	Lys	Ala	Glu	Lys	Leu	Asp	Arg	Leu	100	105	110	
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Ser	Leu	Leu	Gln	Tyr	Met	Gln	Pro	Ala	Ile	Asn	Lys	Gly	Asp	Trp	Leu	130	135	140	
Pro	Ala	Pro	Leu	Lys	Pro	Leu	Thr	Pro	Leu	Ile	Ser	Gly	Ala	Leu	Ser	145	150	155	160
Gly	Ala	Met	Asp	Gln	Val	Gly	Thr	Lys	Met	Met	Asp	Arg	Ala	Thr	Gly	165	170	175	
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Ala	Ala	Ser	Val	Lys	Arg	His	Ser	Pro	Ser	Leu	Ala	Arg	Gln	Val	Leu	195	200	205	
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 Ala Gly Val Gly Lys Leu Gln Glu Met Ala Thr Lys Asn Ile Thr Asp
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 370 375 380
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 385 390 395 400
 Ala Val Lys Lys Ala Glu Ser Phe Ile Gln Asp Thr Val Lys Ser Thr
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 Ala Ser Ser Thr Thr Gly Tyr Val Ala Asp Gln Thr Val Lys Leu Ala
 420 425 430
 Lys Thr Val Lys Asp Met Gly Gly Glu Ala Ile Thr His Thr Gly Ala
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 Ser Leu Arg Asn Thr Val Asn Asn Leu Arg Gln Arg Pro Ala Arg Glu
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<210> 8
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 <212> DNA
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<210> 9
<211> 357
<212> PRT
<213> Pseudomonas syringae

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Thr Tyr Val Gly Trp Ser Leu Phe Trp Leu Leu Leu Trp Asp Val Ala
          20              25              30

Val Thr Val Asp Val Met Leu Ile Glu Gly Lys Gly Ile Asp Phe Pro
          35              40              45

Leu Met Pro Leu Thr Leu Leu Cys Ser Ala Leu Ile Val Leu Ile Ser
          50              55              60

Phe Arg Asn Ser Ser Ala Tyr Asn Arg Trp Trp Glu Ala Arg Thr Leu
          65              70              75              80

Trp Gly Ala Met Val Asn Thr Ser Arg Ser Phe Gly Arg Gln Val Leu
          85              90              95

Thr Leu Ile Asp Gly Glu Arg Asp Asp Leu Asn Asn Pro Val Lys Ala
          100              105              110

Ile Leu Phe Gln Arg His Val Ala Tyr Leu Arg Ala Leu Arg Ala His
          115              120              125

Leu Lys Gly Asp Val Lys Thr Ala Lys Leu Asp Gly Leu Leu Ser Pro
          130              135              140

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Asp Glu Ile Gln Arg Ala Ser Gln Ser Asn Asn Phe Pro Asn Asp Ile
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 165 170 175
 Phe Asp Ser Ile Arg Leu Thr Arg Leu Glu Ser Thr Met Val Asp Leu
 180 185 190
 Ser Asn Cys Gln Gly Gly Met Glu Arg Ile Ala Asn Thr Pro Leu Pro
 195 200 205
 Tyr Pro Tyr Val Tyr Phe Pro Arg Leu Phe Ser Thr Leu Phe Cys Ile
 210 215 220
 Leu Met Pro Leu Ser Met Val Thr Thr Leu Gly Trp Phe Thr Pro Ala
 225 230 235 240
 Ile Ser Thr Val Val Gly Cys Met Leu Leu Ala Met Asp Arg Ile Gly
 245 250 255
 Thr Asp Leu Gln Ala Pro Phe Gly Asn Ser Gln His Arg Ile Arg Met
 260 265 270
 Glu Asp Leu Cys Asn Thr Ile Glu Lys Asn Leu Gln Ser Met Phe Ser
 275 280 285
 Ser Pro Glu Arg Gln Pro Leu Leu Ala Asp Leu Lys Ser Pro Val Pro
 290 295 300
 Trp Arg Val Ala Asn Ala Ser Ile Gly Gly Leu Ser Arg Gln Lys Asn
 305 310 315 320
 Arg Leu Gly Glu Gly Ala Arg Leu Ile Ala Ser Glu Ser Leu Leu Trp
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 Ala Pro Phe Arg Ser Val Ala Asp Val Ala Pro Cys His Ala Ser Ala
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 Tyr Leu Arg Arg Ala
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<210> 10

<211> 1053

<212> DNA

<213> Pseudomonas syringae

<400> 10

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<210> 11

<211> 350

<212> PRT

<213> *Pseudomonas syringae*

<400> 11

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Gln His Asp Lys Pro Ser Ser Leu Ser Gly Leu Ala Pro Gly Ser Ser
  20                25                30

Asp Ala Phe Ala Arg Phe His Pro Glu Lys Ala Gly Ala Phe Val Pro
  35                40                45

Leu Glu Gly His Glu Glu Val Phe Phe Asp Ala Arg Ser Ser Phe Ser
  50                55                60

Ser Val Asp Ala Ala Asp Leu Pro Ser Pro Glu Gln Val Gln Pro Gln
  65                70                75                80

Leu His Ser Leu Arg Thr Leu Leu Pro Asp Leu Met Val Ser Ile Ala
  85                90                95

Ser Leu Arg Asp Gly Ala Thr Gln Tyr Ile Lys Thr Arg Ile Lys Ala
 100                105                110
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Met Ala Asp Asn Ser Ile Gly Ala Thr Ala Asn Ile Glu Ala Lys Arg
 115 120 125

Lys Ile Ala Gln Glu His Gly Cys Gln Leu Val His Pro Phe His Gln
 130 135 140

Ser Lys Phe Leu Phe Glu Lys Thr Ile Asp Asp Arg Ala Phe Ala Ala
 145 150 155 160

Asp Tyr Gly Arg Ala Gly Gly Asp Gly His Ala Cys Leu Gly Leu Ser
 165 170 175

Val Asn Trp Cys Gln Ser Arg Ala Lys Gly Gln Ser Asp Glu Ala Phe
 180 185 190

Phe His Lys Leu Glu Asp Tyr Gln Gly Asp Ala Leu Leu Pro Arg Val
 195 200 205

Met Gly Phe Gln His Ile Glu Gln Gln Ala Tyr Ser Asn Lys Leu Gln
 210 215 220

Asn Ala Ala Pro Met Leu Leu Asp Thr Leu Pro Lys Leu Gly Met Thr
 225 230 235 240

Leu Gly Lys Gly Leu Gly Arg Ala Gln His Ala His Tyr Ala Val Ala
 245 250 255

Leu Glu Asn Leu Asp Arg Asp Leu Lys Ala Val Leu Gln Pro Gly Lys
 260 265 270

Asp Gln Met Leu Leu Phe Leu Ser Asp Ser His Ala Met Ala Leu His
 275 280 285

Gln Asp Ser Gln Gly Cys Leu His Phe Phe Asp Pro Leu Phe Gly Val
 290 295 300

Val Gln Ala Asp Ser Phe Ser Asn Met Ser His Phe Leu Ala Asp Val
 305 310 315 320

Phe Lys Arg Asp Val Gly Thr His Trp Arg Gly Thr Glu Gln Arg Leu
 325 330 335

Gln Leu Ser Glu Met Val Pro Arg Ala Asp Phe His Leu Arg
 340 345 350

<210> 12
 <211> 480

<212> DNA

<213> *Pseudomonas syringae*

<400> 12

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<210> 13

<211> 159

<212> PRT

<213> *Pseudomonas syringae*

<400> 13

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			20					25					30		
Asn	Gly	Ser	Glu	Cys	Leu	Leu	Trp	Leu	Pro	Glu	Gln	Asp	Thr	Ser	Leu
		35					40					45			
Phe	Ile	Phe	Thr	Gln	Ile	Glu	Arg	Leu	Thr	Met	Pro	Gln	Asp	Asn	Val
	50					55				60					
Ile	Leu	Ile	Leu	Ala	Met	Ala	Leu	Asn	Leu	Glu	Pro	Ala	Arg	Thr	Gly
65					70					75				80	
Gly	Ala	Ala	Leu	Gly	Tyr	Asn	Pro	Asp	Ser	Arg	Glu	Leu	Leu	Leu	Arg
			85					90						95	
Ser	Val	His	Ser	Met	Ala	Asp	Leu	Asp	Glu	Thr	Gly	Leu	Asp	His	Leu
			100					105					110		
Met	Thr	Arg	Ile	Ser	Thr	Leu	Ala	Val	Ser	Leu	Gln	Arg	Tyr	Leu	Glu
		115					120					125			
Asp	Tyr	Arg	Arg	Gln	Glu	Gln	Ala	Gly	Lys	Thr	Ala	Gln	Lys	Glu	Pro
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145

150

155

<210> 14

<211> 288

<212> DNA

<213> *Pseudomonas syringae*

<400> 14

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ggaaccata acggagggca gagttggccc atacttatag acgtgccgtt ttccctcgcg 180
ttggacacac tgctgctgcc ctacgacctc accgcttttc tgcccgaaaa tcttggcggt 240
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<210> 15

<211> 95

<212> PRT

<213> *Pseudomonas syringae*

<400> 15

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Met Leu Lys Lys Cys Leu Leu Leu Val Ile Ser Met Ser Leu Gly Gly
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Cys Trp Ser Leu Met Ile His Leu Asp Gly Glu Arg Cys Ile Tyr Pro
          20              25              30

Gly Thr Arg Gln Gly Trp Ala Trp Gly Thr His Asn Gly Gly Gln Ser
          35              40              45

Trp Pro Ile Leu Ile Asp Val Pro Phe Ser Leu Ala Leu Asp Thr Leu
          50              55              60

Leu Leu Pro Tyr Asp Leu Thr Ala Phe Leu Pro Glu Asn Leu Gly Gly
          65              70              75              80

Asp Asp Arg Lys Cys Gln Phe Ser Gly Gly Leu Asn Val Leu Gly
          85              90              95

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<210> 16

<211> 447

<212> DNA

<213> *Pseudomonas syringae*

<400> 16

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catataaagc ttttaaggcg ggtttga 447

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<210> 17

<211> 148

<212> PRT

<213> *Pseudomonas syringae*

<400> 17

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Met Lys Gln Val Glu Val Gln Ile Ile Thr Glu Leu Pro Cys Gln Val
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```

Leu Ile Leu Glu Gln Glu Ala Val Ala Glu Gly Phe Arg Phe Leu Thr
          20                      25                      30

```

```

Arg Leu Ile Glu Glu Trp Arg Ser Gly Lys Asn Arg Phe Glu Ala Lys
          35                      40                      45

```

```

Gly Glu Cys Leu Met Val Val Leu Leu Asp Gly Ala Leu Ala Gly Ile
          50                      55                      60

```

```

Gly Gly Leu Ser Arg Asp Pro His Ala Arg Gly Asp Met Gly Arg Leu
          65                      70                      75                      80

```

```

Arg Arg Leu Tyr Val Ala Ser Ala Ser Arg Gly Gln Gly Leu Gly Lys
          85                      90                      95

```

```

Thr Leu Val Asn Arg Leu Val Glu His Ala Ala Gln Glu Phe Phe Ala
          100                      105                      110

```

```

Val Arg Leu Phe Thr Asp Thr Pro Ser Gly Ala Lys Phe Tyr Leu Arg
          115                      120                      125

```

```

Cys Gly Phe Gln Ala Val Asp Glu Val His Ala Thr His Ile Lys Leu
          130                      135                      140

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Leu Arg Arg Val
145

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<210> 18

<211> 11458

<212> DNA

<213> *Pseudomonas syringae*

<220>

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<222> (10940)

<223> n at any position is undefined

<400> 18

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<211> 1401

<212> DNA

<213> *Pseudomonas syringae*

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<210> 20

<211> 466

<212> PRT

<213> *Pseudomonas syringae*

<400> 20

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<212> DNA

<213> Pseudomonas syringae

<400> 21

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<212> PRT

<213> *Pseudomonas syringae*

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Lys Lys Leu Asp Ala Val Leu Glu Ala Arg Thr Asn Lys Ser Tyr Met
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Asn Lys Gly Gln Leu Ile Asp Leu Val Ser Gly Ala Phe Leu Gly Thr
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Pro Tyr Arg Ser Asn Met Leu Val Gly Ser Ala Asn Val Pro Glu Gln
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Leu Val Ile Asp Phe Arg Gly Leu Asp Cys Phe Ala Tyr Leu Asp Tyr
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Val Glu Ala Phe Arg Arg Ser Thr Ser Gln Gln Asp Phe Val Arg Asn
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Leu Val Gln Val Arg Tyr Lys Gly Gly Asp Val Asp Phe Leu Asn Arg
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<210> 23
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<213> Pseudomonas syringae

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<212> PRT
<213> Pseudomonas syringae

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Gly	Asn	Asp	Lys	Asp	Leu	Asp	Asn	Asp	His	His	Thr	Asp	Ala	Ala	Phe
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<210> 26
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<210> 27
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 tcgttctacc ataaaagccg agagcttggg gcgtcgggtcg ccaatggaga gatagaaacg 300
 tttcaggagc tctggagtga agctcgtgat tggagagctt ccagagcagg ccaagatgct 360
 cggcttttta gttcatcgcg tgateccaac tcttcacggg cgtttggttac gcctataact 420
 ggaccatacg aattttttaa agatagattc gcaaaccgta aagatggaga aaagcataag 480
 atgatggatt ttctcccaca cagcaatacg tttaggtttc atgggaaaat tgacggtgag 540
 cgacttctc tcacctggat ctcgataagt tctgatcgtc gtgccgacag aaaaaggat 600
 ccttaccaaa ggttgcgcg ccaaggcatg aacgatgtgg gtgagcctaa tgtgatgttg 660
 cacaccaag ccgagtatgt gcccaaaatt atgcaacatg tggagcatct ttataaggcc 720
 gctacggatg ctgcattgtc cgatgccaat gcgctgaaaa aactcgcaga gatacattgg 780
 tggacggtag aagctgttcc cgactttcgt ggaagtgcag ctaaggctga gctctgcgtg 840
 cgctccattg ccaggcaag gggcatggac ctgccgccga tgagactcgg catcgtgccg 900
 gatctggaag cgcttacgat gcctttgaaa gactttgtga aaagttacga agggttcttc 960
 gaacataact ga 972

210	215	220
Glu Tyr Val Pro Lys Ile Met Gln His Val Glu His Leu Tyr Lys Ala		
225	230	235 240
Ala Thr Asp Ala Ala Leu Ser Asp Ala Asn Ala Leu Lys Lys Leu Ala		
	245	250 255
Glu Ile His Trp Trp Thr Val Gln Ala Val Pro Asp Phe Arg Gly Ser		
	260	265 270
Ala Ala Lys Ala Glu Leu Cys Val Arg Ser Ile Ala Gln Ala Arg Gly		
	275	280 285
Met Asp Leu Pro Pro Met Arg Leu Gly Ile Val Pro Asp Leu Glu Ala		
	290	295 300
Leu Thr Met Pro Leu Lys Asp Phe Val Lys Ser Tyr Glu Gly Phe Phe		
305	310	315 320
Glu His Asn		

<210> 29
 <211> 1149
 <212> DNA
 <213> Pseudomonas syringae

<400> 29
 atgagaattc acagttccgg tcatggcatc tccggaccag tatcctctgc agaaaccggt 60
 gaaaaggccg tgcaatcatc ggccaagcg cagaatgaag cgtctcacag cgggccatca 120
 gaacatcctg aatcccgcgc ctgtcaggca cgcccgaact acccttattc gtcagtcaaa 180
 acacgggttac cccctgttgc gtctgcaggg cagtcgctgt ctgagacacc ctcttcattg 240
 cctggctacc tgctgttacg tcggcttgat cgtcgtccgc tggaccagga cgcaataaag 300
 gggcttattc ctgctgatga agcagtgggc gaagcgcgcc gcgcgttgcc ctccggcagg 360
 ggcaacattg atgtggatgc gcaacgctcc aacctggaaa gcggggcccg cacgctcgcc 420
 gcaagacgcc tgagaaaaga cgccgagacg gcgggtcatg agccgatgcc cgagaacgaa 480
 gacatgaact ggcattgtgt ggttgccatg tcgggtcagg tgttcggggc tggcaactgt 540
 ggccaacatg ccggtatagc gagctttgcc tacgggtgat cggctcagga aaaaggacgc 600
 gctggcgatg aaaatattca tctggctgcg cagagcgggg aagatcatgt ctgggctgaa 660
 acggatgatt ccagcgcctg ctcttcgcct attgtcatgg acccctgggc aaacggtcct 720
 gccgtttttg cagaggacag tcggtttgct aaagataggc gcgcggtaga gcgaacggat 780
 tcgttcacgc tttcaaccgc tgccaaagca ggcaagatta cacgagagac agccgagaag 840
 gcgctgaccc aagcgaccag ccgtttgacg caacgtcttg ctgatcagca ggcgcaagtc 900
 tcgccgggtg aagggtggcg ctatcggcaa gaaaactcgg tgcttgatga tgcgttcgcc 960
 cgacgagtca gtgacatgtt gaacaatgcc gatccacggc gtgcattgca ggtggaaatc 1020
 gaggcgtccg gagttgcaat gtcgctgggt gcccaaggcg tcaagacggt cgtccgacag 1080

gcgccaaaag tggtcaggca agccagagggc gtcgcatctg ctaaaggtat gtctccgcga 1140
gcaacctga 1149

<210> 30
<211> 382
<212> PRT
<213> *Pseudomonas syringae*

<400> 30

Met Arg Ile His Ser Ser Gly His Gly Ile Ser Gly Pro Val Ser Ser
1 5 10 15

Ala Glu Thr Val Glu Lys Ala Val Gln Ser Ser Ala Gln Ala Gln Asn
20 25 30

Glu Ala Ser His Ser Gly Pro Ser Glu His Pro Glu Ser Arg Ser Cys
35 40 45

Gln Ala Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro
50 55 60

Pro Val Ala Ser Ala Gly Gln Ser Leu Ser Glu Thr Pro Ser Ser Leu
65 70 75 80

Pro Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Gln
85 90 95

Asp Ala Ile Lys Gly Leu Ile Pro Ala Asp Glu Ala Val Gly Glu Ala
100 105 110

Arg Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln
115 120 125

Arg Ser Asn Leu Glu Ser Gly Ala Arg Thr Leu Ala Ala Arg Arg Leu
130 135 140

Arg Lys Asp Ala Glu Thr Ala Gly His Glu Pro Met Pro Glu Asn Glu
145 150 155 160

Asp Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly
165 170 175

Ala Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly
180 185 190

Ala Ser Ala Gln Glu Lys Gly Arg Ala Gly Asp Glu Asn Ile His Leu
195 200 205

Ala Ala Gln Ser Gly Glu Asp His Val Trp Ala Glu Thr Asp Asp Ser
210 215 220

Ser Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Pro
225 230 235 240

Ala Val Phe Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Arg Ala Val
245 250 255

Glu Arg Thr Asp Ser Phe Thr Leu Ser Thr Ala Ala Lys Ala Gly Lys
260 265 270

Ile Thr Arg Glu Thr Ala Glu Lys Ala Leu Thr Gln Ala Thr Ser Arg
275 280 285

Leu Gln Gln Arg Leu Ala Asp Gln Gln Ala Gln Val Ser Pro Val Glu
290 295 300

Gly Gly Arg Tyr Arg Gln Glu Asn Ser Val Leu Asp Asp Ala Phe Ala
305 310 315 320

Arg Arg Val Ser Asp Met Leu Asn Asn Ala Asp Pro Arg Arg Ala Leu
325 330 335

Gln Val Glu Ile Glu Ala Ser Gly Val Ala Met Ser Leu Gly Ala Gln
340 345 350

Gly Val Lys Thr Val Val Arg Gln Ala Pro Lys Val Val Arg Gln Ala
355 360 365

Arg Gly Val Ala Ser Ala Lys Gly Met Ser Pro Arg Ala Thr
370 375 380

<210> 31
<211> 1236
<212> DNA
<213> Pseudomonas syringae

<400> 31
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tcgtcatcat cggtaactaa cccaccgcta cagcgtggcg agggcagacg tctgcgacgt 120
caggatgcgc tgccaacgga tatcagatac aacgccaacc agacagcgac atcaccgcaa 180
aacgcgcgcg cggcaggaag atatgaatca ggggccagct catccggcgc gaatgatact 240
ccgcaggctg aaggttcaat gccttcgtcg tccgcccttt tacaatttcg cctcgccggc 300
gggcggaacc attctgagct ggaaaatttt catactatga tgctgaactc accgaaagca 360
tcacggggag atgctatacc tgagaagccc gaagcaatac ctaagcgcct actggagaag 420

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atggaaccga ttaacctggc ccagtttagct ttgcgtgata aggatctgca tgaatatgcc 480
gtaatggtct gtaaccaagt gaaaaagggg gaaggccga actccaatat tacgcaagga 540
gatatcaagt tactgccgct gttcgccaaa gcggaaaata caagaaatcc cggcttgaat 600
ctgcatacat tcaaaagtca taaagactgt taccaggcga taaaagagca aaacagggat 660
attcaaaaaa acaagcaatc gctgagtatg cgggttggtt accccccatt caaaaagatg 720
ccagaccacc atatagcctt ggatatccaa ctgagatacg gccatcgacc gtcgattgtc 780
ggctttgagt ctgcccctgg gaacattata gatgctgcag aaagggaat actttcagca 840
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accatgtttg cgcttaataa cgccctgaaa gcttttaaac atcacgaaga atataccgcc 960
cgtctgcaca atggagaaaa gcagggtgcct atcccggcga ccttcttgaa acatgctcag 1020
tcaaaaagct tagtggagaa tcaccgggaa aaagatacca ccgtcactaa agaccagggc 1080
ggctctgcata tggaaacgct attacacaga aaccgtgcct accgggcgca acgatctgcc 1140
ggtcagcacg ttacctctat tgaaggtttc agaatgcagg aaataaagag agcaggtgac 1200
ttccttgccg caaacagggg ccgggccaaag ccttga 1236

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<210> 32

<211> 411

<212> PRT

<213> *Pseudomonas syringae*

<400> 32

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Met Asn Ile Ser Gly Pro Asn Arg Arg Gln Gly Thr Gln Ala Glu Asn
  1             5             10             15

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```

Thr Glu Ser Ala Ser Ser Ser Ser Val Thr Asn Pro Pro Leu Gln Arg
      20             25             30

```

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Gly Glu Gly Arg Arg Leu Arg Arg Gln Asp Ala Leu Pro Thr Asp Ile
    35             40             45

```

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Arg Tyr Asn Ala Asn Gln Thr Ala Thr Ser Pro Gln Asn Ala Arg Ala
    50             55             60

```

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Ala Gly Arg Tyr Glu Ser Gly Ala Ser Ser Ser Gly Ala Asn Asp Thr
    65             70             75             80

```

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Pro Gln Ala Glu Gly Ser Met Pro Ser Ser Ser Ala Leu Leu Gln Phe
      85             90             95

```

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Arg Leu Ala Gly Gly Arg Asn His Ser Glu Leu Glu Asn Phe His Thr
    100            105            110

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Met Met Leu Asn Ser Pro Lys Ala Ser Arg Gly Asp Ala Ile Pro Glu
    115            120            125

```

```

Lys Pro Glu Ala Ile Pro Lys Arg Leu Leu Glu Lys Met Glu Pro Ile
    130            135            140

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Asn	Leu	Ala	Gln	Leu	Ala	Leu	Arg	Asp	Lys	Asp	Leu	His	Glu	Tyr	Ala	
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Val	Met	Val	Cys	Asn	Gln	Val	Lys	Lys	Gly	Glu	Gly	Pro	Asn	Ser	Asn	
				165					170					175		
Ile	Thr	Gln	Gly	Asp	Ile	Lys	Leu	Leu	Pro	Leu	Phe	Ala	Lys	Ala	Glu	
			180					185						190		
Asn	Thr	Arg	Asn	Pro	Gly	Leu	Asn	Leu	His	Thr	Phe	Lys	Ser	His	Lys	
		195					200					205				
Asp	Cys	Tyr	Gln	Ala	Ile	Lys	Glu	Gln	Asn	Arg	Asp	Ile	Gln	Lys	Asn	
	210					215					220					
Lys	Gln	Ser	Leu	Ser	Met	Arg	Val	Val	Tyr	Pro	Pro	Phe	Lys	Lys	Met	
225					230					235					240	
Pro	Asp	His	His	Ile	Ala	Leu	Asp	Ile	Gln	Leu	Arg	Tyr	Gly	His	Arg	
				245					250					255		
Pro	Ser	Ile	Val	Gly	Phe	Glu	Ser	Ala	Pro	Gly	Asn	Ile	Ile	Asp	Ala	
			260					265					270			
Ala	Glu	Arg	Glu	Ile	Leu	Ser	Ala	Leu	Gly	Asn	Val	Lys	Ile	Lys	Met	
		275					280					285				
Val	Gly	Asn	Phe	Leu	Gln	Tyr	Ser	Lys	Thr	Asp	Cys	Thr	Met	Phe	Ala	
	290					295					300					
Leu	Asn	Asn	Ala	Leu	Lys	Ala	Phe	Lys	His	His	Glu	Glu	Tyr	Thr	Ala	
305					310					315					320	
Arg	Leu	His	Asn	Gly	Glu	Lys	Gln	Val	Pro	Ile	Pro	Ala	Thr	Phe	Leu	
				325					330					335		
Lys	His	Ala	Gln	Ser	Lys	Ser	Leu	Val	Glu	Asn	His	Pro	Glu	Lys	Asp	
			340					345					350			
Thr	Thr	Val	Thr	Lys	Asp	Gln	Gly	Gly	Leu	His	Met	Glu	Thr	Leu	Leu	
		355					360					365				
His	Arg	Asn	Arg	Ala	Tyr	Arg	Ala	Gln	Arg	Ser	Ala	Gly	Gln	His	Val	
	370					375					380					
Thr	Ser	Ile	Glu	Gly	Phe	Arg	Met	Gln	Glu	Ile	Lys	Arg	Ala	Gly	Asp	
385					390					395					400	

Phe Leu Ala Ala Asn Arg Val Arg Ala Lys Pro
405 410

<210> 33
<211> 363
<212> DNA
<213> *Pseudomonas syringae*

<400> 33
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ctttctactc cagccagcag cacacttctg agcgatatcc tggccgccaa cctctttcat 120
tatgggtcca gcgatggggc ggccttcggg ctggacgaaa aaaataatga agtgctgctt 180
tttcagcggg ttgatccggt acggattgat gaggatcact ttgtcagcgc ctgcgttcag 240
atgatcgaag tggcgaaaat atggcgggca aagttactgc atggccattc tgctccgctc 300
gcctcctcaa ccaggctgac gaaagccggg ttaatgctaa ccatggcggg gactattcga 360
tga 363

<210> 34
<211> 120
<212> PRT
<213> *Pseudomonas syringae*

<400> 34
Met Thr Leu Glu Arg Ile Glu Gln Gln Asn Thr Leu Phe Val Tyr Leu
1 5 10 15
Cys Val Gly Thr Leu Ser Thr Pro Ala Ser Ser Thr Leu Leu Ser Asp
20 25 30
Ile Leu Ala Ala Asn Leu Phe His Tyr Gly Ser Ser Asp Gly Ala Ala
35 40 45
Phe Gly Leu Asp Glu Lys Asn Asn Glu Val Leu Leu Phe Gln Arg Phe
50 55 60
Asp Pro Leu Arg Ile Asp Glu Asp His Phe Val Ser Ala Cys Val Gln
65 70 75 80
Met Ile Glu Val Ala Lys Ile Trp Arg Ala Lys Leu Leu His Gly His
85 90 95
Ser Ala Pro Leu Ala Ser Ser Thr Arg Leu Thr Lys Ala Gly Leu Met
100 105 110
Leu Thr Met Ala Gly Thr Ile Arg

<210> 35
 <211> 1128
 <212> DNA
 <213> *Pseudomonas syringae*

<400> 35

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gtgaacccta tccatgcacg cttctccagc gtagaagcgc tcagacattc aaacgttgat 60
attcaggcaa tcaaatccga gggtcagttg gaagtcaacg gcaagcggtta cgagattcgt 120
gcggccgctg acggctcaat cgcggtcctc agacccgatc aacagtccaa agcagacaag 180
ttcttcaaag gcgcagcgca tcttattggc ggacaaagcc agcgtgcca aatagcccag 240
gtactcaacg agaaagcggc ggcagttcca cgcttgaca gaatgttggg cagacgcttc 300
gatctggaga agggcggaag tagcgctgtg ggcgccgcaa tcaaggctgc cgacagccga 360
ctgacatcaa aacagacatt tgccagcttc cagcaatggg ctgaaaaagc tgaggcgctc 420
gggcgatacc gaaatcggtg tctacatgat ctacaagagg gacacgccag acacaacgcc 480
tatgaatgcg gcagagtcaa gaacattacc tggaaacgct acaggctctc gataacaaga 540
aaaaccttat catacgcccc gcagatccat gatgatcggg aagaggaaga gcttgatctg 600
ggccgataca tcgctgaaga cagaaatgcc agaaccggct tttttagaat ggttcctaaa 660
gaccaacgcg cacctgagac aaactcggga cgacttacca ttggtgtaga acctaaatat 720
ggagcgcagt tggccctcgc aatggcaacc ctgatggaca agcacaatc tgtgacacaa 780
ggtaaagtcg tcggtccggc aaaatatggc cagcaaactg actctgccat tctttacata 840
aatggtgatc ttgcaaaagc agtaaaactg ggcgaaaagc tgaaaaagct gagcgggtatc 900
cctcctgaag gattcgtcga acatacaccg ctaagcatgc agtcgacggg tctcgggtctt 960
tcttatgccg agtcggttga agggcagcct tccagccacg gacaggcgag aacacacggt 1020
atcatggatg ccttgaaagg ccagggcccc atggagaaca gactcaaaat ggcgctggca 1080
gaaagaggct atgacccgga aaatccggcg ctcagggcgc gaaactga 1128

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<210> 36
 <211> 375
 <212> PRT
 <213> *Pseudomonas syringae*

<400> 36

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Val Asn Pro Ile His Ala Arg Phe Ser Ser Val Glu Ala Leu Arg His
  1               5               10              15

Ser Asn Val Asp Ile Gln Ala Ile Lys Ser Glu Gly Gln Leu Glu Val
      20              25              30

Asn Gly Lys Arg Tyr Glu Ile Arg Ala Ala Ala Asp Gly Ser Ile Ala
      35              40              45

Val Leu Arg Pro Asp Gln Gln Ser Lys Ala Asp Lys Phe Phe Lys Gly
      50              55              60

```

Ala	Ala	His	Leu	Ile	Gly	Gly	Gln	Ser	Gln	Arg	Ala	Gln	Ile	Ala	Gln	
65					70					75					80	
Val	Leu	Asn	Glu	Lys	Ala	Ala	Ala	Val	Pro	Arg	Leu	Asp	Arg	Met	Leu	
				85					90					95		
Gly	Arg	Arg	Phe	Asp	Leu	Glu	Lys	Gly	Gly	Ser	Ser	Ala	Val	Gly	Ala	
			100					105					110			
Ala	Ile	Lys	Ala	Ala	Asp	Ser	Arg	Leu	Thr	Ser	Lys	Gln	Thr	Phe	Ala	
		115					120					125				
Ser	Phe	Gln	Gln	Trp	Ala	Glu	Lys	Ala	Glu	Ala	Leu	Gly	Arg	Tyr	Arg	
	130					135					140					
Asn	Arg	Tyr	Leu	His	Asp	Leu	Gln	Glu	Gly	His	Ala	Arg	His	Asn	Ala	
145					150					155					160	
Tyr	Glu	Cys	Gly	Arg	Val	Lys	Asn	Ile	Thr	Trp	Lys	Arg	Tyr	Arg	Leu	
				165					170					175		
Ser	Ile	Thr	Arg	Lys	Thr	Leu	Ser	Tyr	Ala	Pro	Gln	Ile	His	Asp	Asp	
			180					185					190			
Arg	Glu	Glu	Glu	Glu	Leu	Asp	Leu	Gly	Arg	Tyr	Ile	Ala	Glu	Asp	Arg	
		195					200					205				
Asn	Ala	Arg	Thr	Gly	Phe	Phe	Arg	Met	Val	Pro	Lys	Asp	Gln	Arg	Ala	
	210					215					220					
Pro	Glu	Thr	Asn	Ser	Gly	Arg	Leu	Thr	Ile	Gly	Val	Glu	Pro	Lys	Tyr	
225					230					235					240	
Gly	Ala	Gln	Leu	Ala	Leu	Ala	Met	Ala	Thr	Leu	Met	Asp	Lys	His	Lys	
				245					250					255		
Ser	Val	Thr	Gln	Gly	Lys	Val	Val	Gly	Pro	Ala	Lys	Tyr	Gly	Gln	Gln	
			260					265					270			
Thr	Asp	Ser	Ala	Ile	Leu	Tyr	Ile	Asn	Gly	Asp	Leu	Ala	Lys	Ala	Val	
		275					280					285				
Lys	Leu	Gly	Glu	Lys	Leu	Lys	Lys	Leu	Ser	Gly	Ile	Pro	Pro	Glu	Gly	
	290					295					300					
Phe	Val	Glu	His	Thr	Pro	Leu	Ser	Met	Gln	Ser	Thr	Gly	Leu	Gly	Leu	
305					310					315					320	

Ser Tyr Ala Glu Ser Val Glu Gly Gln Pro Ser Ser His Gly Gln Ala
 325 330 335

Arg Thr His Val Ile Met Asp Ala Leu Lys Gly Gln Gly Pro Met Glu
 340 345 350

Asn Arg Leu Lys Met Ala Leu Ala Glu Arg Gly Tyr Asp Pro Glu Asn
 355 360 365

Pro Ala Leu Arg Ala Arg Asn
 370 375

<210> 37
 <211> 336
 <212> DNA
 <213> Pseudomonas syringae

<400> 37
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 gcattcgctc tgacgctgtt gcgcgacgac acgcatcaac gtttggttgc gattggtctg 120
 cttgagccac acgaggatct acccttgcag cgcctgttgg ctggcgctct caacccccctt 180
 gtgaatgccg gccccggcat tggctgggat gagcaaagcg gcctgtacca cgcttaccaa 240
 agcatcccgc gggaaaaagt cagcgtggag atgctgaagc tcgaaattgc aggattggtc 300
 gaatggatga agtgttggcg agaagcccg acgtga 336

<210> 38
 <211> 111
 <212> PRT
 <213> Pseudomonas syringae

<400> 38
 Met Glu Met Pro Ala Leu Ala Phe Asp Asp Lys Gly Ala Cys Asn Met
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 Ile Ile Asp Lys Ala Phe Ala Leu Thr Leu Leu Arg Asp Asp Thr His
 20 25 30
 Gln Arg Leu Leu Leu Ile Gly Leu Leu Glu Pro His Glu Asp Leu Pro
 35 40 45
 Leu Gln Arg Leu Leu Ala Gly Ala Leu Asn Pro Leu Val Asn Ala Gly
 50 55 60
 Pro Gly Ile Gly Trp Asp Glu Gln Ser Gly Leu Tyr His Ala Tyr Gln
 65 70 75 80

Ser Ile Pro Arg Glu Lys Val Ser Val Glu Met Leu Lys Leu Glu Ile
85 90 95

Ala Gly Leu Val Glu Trp Met Lys Cys Trp Arg Glu Ala Arg Thr
100 105 110

<210> 39

<211> 1143

<212> DNA

<213> *Pseudomonas syringae* pv. *angulata*

<400> 39

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cgtcctgaag ccggttcgac tcaagtgcga ctgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg ccacgccatc ttcattgccc 240
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aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcg agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccg gaatgatgag 480
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gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
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gataattcca gcgctggctc ttgcgccatc gtcattggacc cgtgggtctaa cggcgcagcc 720
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ttcacccttg caatggcagc tgaagccggc aagggttacgc gtgaaaccgc cgagaacggt 840
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gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgcta agacggtcgc ccgacaggcg 1080
ccaaagggtg tcaggcaagc cagaagcgtc gcgtcgctca aaggcatgcc tccacgaaga 1140
taa 1143
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<210> 40

<211> 380

<212> PRT

<213> *Pseudomonas syringae* pv. *angulata*

<400> 40

Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Tyr Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln

35					40					45						
Val	Arg	Leu	Asn	Tyr	Pro	Tyr	Ser	Ser	Val	Lys	Thr	Arg	Leu	Pro	Pro	
50					55					60						
Val	Ser	Ser	Thr	Gly	Gln	Ala	Ile	Ser	Ala	Thr	Pro	Ser	Ser	Leu	Pro	
65					70					75					80	
Gly	Tyr	Leu	Leu	Leu	Arg	Arg	Leu	Asp	Arg	Arg	Pro	Leu	Asp	Glu	Asp	
85					90					95						
Ser	Ile	Lys	Ala	Leu	Val	Pro	Ala	Asp	Glu	Ala	Val	Arg	Glu	Ala	Arg	
100					105					110						
Arg	Ala	Leu	Pro	Phe	Gly	Arg	Gly	Asn	Ile	Asp	Val	Asp	Ala	Gln	Arg	
115					120					125						
Thr	His	Leu	Gln	Ser	Gly	Ala	Arg	Ala	Val	Ala	Ala	Lys	Arg	Leu	Arg	
130					135					140						
Lys	Asp	Ala	Glu	Arg	Ala	Gly	His	Glu	Pro	Met	Pro	Gly	Asn	Asp	Glu	
145					150					155					160	
Met	Asn	Trp	His	Val	Leu	Val	Ala	Met	Ser	Gly	Gln	Val	Phe	Gly	Ala	
165					170					175						
Gly	Asn	Cys	Gly	Glu	His	Ala	Arg	Ile	Ala	Ser	Phe	Ala	Tyr	Gly	Ala	
180					185					190						
Leu	Ala	Gln	Glu	Ser	Gly	Arg	Ser	Pro	Arg	Glu	Lys	Ile	His	Leu	Ala	
195					200					205						
Glu	Gln	Pro	Gly	Lys	Asp	His	Val	Trp	Ala	Glu	Thr	Asp	Asn	Ser	Ser	
210					215					220						
Ala	Gly	Ser	Ser	Pro	Ile	Val	Met	Asp	Pro	Trp	Ser	Asn	Gly	Ala	Ala	
225					230					235					240	
Ile	Leu	Ala	Glu	Asp	Ser	Arg	Phe	Ala	Lys	Asp	Arg	Ser	Thr	Val	Glu	
245					250					255						
Arg	Thr	Tyr	Ser	Phe	Thr	Leu	Ala	Met	Ala	Ala	Glu	Ala	Gly	Lys	Val	
260					265					270						
Thr	Arg	Glu	Thr	Ala	Glu	Asn	Val	Leu	Thr	His	Thr	Thr	Ser	Arg	Leu	
275					280					285						
Gln	Lys	Arg	Leu	Ala	Asp	Gln	Leu	Pro	Asn	Val	Ser	Pro	Leu	Glu	Gly	

290	295	300
Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg		
305	310	315 320
Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln		
	325	330 335
Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly		
	340	345 350
Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg		
	355	360 365
Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg		
	370	375 380

<210> 41
 <211> 1143
 <212> DNA
 <213> *Pseudomonas syringae* pv. *glycinea*

<400> 41
 atgagaattc acagtgctgg tcacagcctg cccgcgccag gccctagcgt ggaaaccact 60
 gaaaaggctg ttcaatcatc atcggcccag aaccccgcctt cttgcagttc acaaacagaa 120
 cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
 cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgtcc 240
 ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
 ctgggtccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
 aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
 aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccga gaatgatgag 480
 atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
 gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
 cccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
 gataattcca gcgctggctc ttgcgccatc gtcattggacc cgtgggtctaa cggcgtagcc 720
 attttggcgg aggacagccg gtttgccaaa gatcgagcgt cggtagagcg aacatattca 780
 ttcacccttg caatggcagc tgaagccggc aagggtgcgc gtgaaaccgc cgagaacggt 840
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 ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgcccga 960
 cgagtgcgcg acaagttgaa tagtgacgat ccacggcgtg cgttgagat ggaaattgaa 1020
 gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgta agacggtcgc ccgacaggcg 1080
 ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
 taa 1143

<210> 42
 <211> 380

<212> PRT

<213> *Pseudomonas syringae* pv. *glycinea*

<400> 42

Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Ser
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
115 120 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
130 135 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145 150 155 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
165 170 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Val Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
 245 250 255
 Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
 260 265 270
 Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
 275 280 285
 Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
 290 295 300
 Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
 305 310 315 320
 Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
 325 330 335
 Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
 340 345 350
 Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
 355 360 365
 Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
 370 375 380

<210> 43

<211> 1143

<212> DNA

<213> *Pseudomonas syringae* pv. *tabaci*

<400> 43

atgagaattc acagtgctgg tcacagcctg cctgcgccag gccctagcgt ggaaaccact 60
 gaaaaggctg ttcaatcatc atcggcccag aaccccgcctt cttgcagttc acaaacagaa 120
 cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
 cgcttgccac ccgtttcttc tacagggcag gccattttctg acacgccatc ttcattgccc 240
 ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
 ctgggttcgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
 aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
 aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
 atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
 gaacatgctc gtatagcaag cttcgcttac ggggccttgg ctcaggaaag cgggcgtagt 600
 ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
 gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtgggtctaa cggcgcagcc 720
 attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780

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ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaactgc cgagaacggt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcgggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

```

<210> 44

<211> 380

<212> PRT

<213> *Pseudomonas syringae* pv. *tabaci*

<400> 44

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Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
  1              5              10              15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
      20              25              30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
      35              40              45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
      50              55              60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
      65              70              75              80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
      85              90              95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
      100             105             110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
      115             120             125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
      130             135             140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
      145             150             155             160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
      165             170             175

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Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
 180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
 195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
 210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
 225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
 245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
 260 265 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
 275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
 290 295 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
 305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
 325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
 340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
 355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
 370 375 380

<210> 45

<211> 1143

<212> DNA

<213> Pseudomonas syringae pv. tabaci

<400> 45

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 gaaaaggctg ttcaatcatc atcggcccag aaccccgcctt cttgcagttc acaaacagaa 120

```

cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg acacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgcccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcg agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccac gtcatggacc cgtggtctaa cggcgcagcc 720
atthttggcg aggacagccg gtttgccaaa gatcgagctg cggtagagcg aacatattca 780
ttcacccctt caatggcagc tgaagccggc aagggttacgc gtgaaactgc cgagaacggt 840
ctgaccacac cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgcgag acaagttgaa tagtgacgat ccacggcgctg cgttgagatg ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgctc agacggctcg ccgacaggcg 1080
ccaaagggtg tcaggcaagc cagaagcgct gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

```

<210> 46

<211> 380

<212> PRT

<213> *Pseudomonas syringae* pv. *tabaci*

<400> 46

```

Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
  1              5              10              15

```

```

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
      20              25              30

```

```

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
      35              40              45

```

```

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
      50              55              60

```

```

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
      65              70              75              80

```

```

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
      85              90              95

```

```

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
      100             105             110

```

```

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg

```

115		120		125
Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg				
130		135		140
Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu				
145		150		155
Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala				
	165		170	175
Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala				
	180		185	190
Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala				
	195		200	205
Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser				
	210		215	220
Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala				
225		230		235
Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu				
	245		250	255
Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val				
	260		265	270
Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu				
	275		280	285
Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly				
	290		295	300
Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg				
305		310		315
Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln				
	325		330	335
Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly				
	340		345	350
Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg				
	355		360	365
Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg				

370

375

380

<210> 47

<211> 1143

<212> DNA

<213> *Pseudomonas syringae* pv. *glycinea*

<400> 47

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atgagaattc acagtgctgg tcacagcctg cccgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgtt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgtcc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcagggggc 360
aacattgatg tggatgcaca acgtaccac ctgcaaagcg gcgctcgcg agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcattggacc cgtggtctaa cggcgtagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgagtg cggtagagcg aacatattca 780
ttcacccctg caatggcagc tgaagccggc aaggttgcgc gtgaaaccgc cgagaacgtt 840
ctgaccacac cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgccoga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgacgat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaagggtg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa
1143

```

<210> 48

<211> 380

<212> PRT

<213> *Pseudomonas syringae* pv. *glycinea*

<400> 48

```

Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
 1           5           10          15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
      20           25           30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
      35           40           45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
      50           55           60

```

Val	Ser	Ser	Thr	Gly	Gln	Ala	Ile	Ser	Asp	Thr	Pro	Ser	Ser	Leu	Ser	65	70	75	80
Gly	Tyr	Leu	Leu	Leu	Arg	Arg	Leu	Asp	Arg	Arg	Pro	Leu	Asp	Glu	Asp	85	90	95	
Ser	Ile	Lys	Ala	Leu	Val	Pro	Ala	Asp	Glu	Ala	Leu	Arg	Glu	Ala	Arg	100	105	110	
Arg	Ala	Leu	Pro	Phe	Gly	Arg	Gly	Asn	Ile	Asp	Val	Asp	Ala	Gln	Arg	115	120	125	
Thr	His	Leu	Gln	Ser	Gly	Ala	Arg	Ala	Val	Ala	Ala	Lys	Arg	Leu	Arg	130	135	140	
Lys	Asp	Ala	Glu	Arg	Ala	Gly	His	Glu	Pro	Met	Pro	Glu	Asn	Asp	Glu	145	150	155	160
Met	Asn	Trp	His	Val	Leu	Val	Ala	Met	Ser	Gly	Gln	Val	Phe	Gly	Ala	165	170	175	
Gly	Asn	Cys	Gly	Glu	His	Ala	Arg	Ile	Ala	Ser	Phe	Ala	Tyr	Gly	Ala	180	185	190	
Leu	Ala	Gln	Glu	Ser	Gly	Arg	Ser	Pro	Arg	Glu	Lys	Ile	His	Leu	Ala	195	200	205	
Glu	Gln	Pro	Gly	Lys	Asp	His	Val	Trp	Ala	Glu	Thr	Asp	Asn	Ser	Ser	210	215	220	
Ala	Gly	Ser	Ser	Pro	Ile	Val	Met	Asp	Pro	Trp	Ser	Asn	Gly	Val	Ala	225	230	235	240
Ile	Leu	Ala	Glu	Asp	Ser	Arg	Phe	Ala	Lys	Asp	Arg	Ser	Ala	Val	Glu	245	250	255	
Arg	Thr	Tyr	Ser	Phe	Thr	Leu	Ala	Met	Ala	Ala	Glu	Ala	Gly	Lys	Val	260	265	270	
Ala	Arg	Glu	Thr	Ala	Glu	Asn	Val	Leu	Thr	His	Thr	Thr	Ser	Arg	Leu	275	280	285	
Gln	Lys	Arg	Leu	Ala	Asp	Gln	Leu	Pro	Asn	Val	Ser	Pro	Leu	Glu	Gly	290	295	300	
Gly	Arg	Tyr	Gln	Pro	Glu	Lys	Ser	Val	Leu	Asp	Glu	Ala	Phe	Ala	Arg	305	310	315	320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
 325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
 340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
 355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
 370 375 380

<210> 49

<211> 1143

<212> DNA

<213> *Pseudomonas syringae* pv. *phaseolicola*

<400> 49

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gaaaaggctg ttcaatcatc atcggcccag aaccccgcctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgga gaatgatgag 480
atgaactggc atgtttcttg cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccac gtcatggacc cgtgggtctaa cggcgcagcc 720
atthttggcg aggacagccg gtttgccaaa gatcgagtg cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aagggttgcg gtgaaaccgc cgagaacggt 840
ctgaccacaca cgacaagccg tctgcagaag cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgageg acaagttgaa tagtgacgat ccacggcggt cgttgagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgta agacggtcgc ccgacaggcg 1080
ccaaagggtg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

```

<210> 50

<211> 380

<212> PRT

<213> *Pseudomonas syringae* pv. *phaseolicola*

<400> 50

Met	Arg	Ile	His	Ser	Ala	Gly	His	Ser	Leu	Pro	Ala	Pro	Gly	Pro	Ser	1	5	10	15
Val	Glu	Thr	Thr	Glu	Lys	Ala	Val	Gln	Ser	Ser	Ser	Ala	Gln	Asn	Pro	20	25	30	
Ala	Ser	Cys	Ser	Ser	Gln	Thr	Glu	Arg	Pro	Glu	Ala	Gly	Ser	Thr	Gln	35	40	45	
Val	Arg	Pro	Asn	Tyr	Pro	Tyr	Ser	Ser	Val	Lys	Thr	Arg	Leu	Pro	Pro	50	55	60	
Val	Ser	Ser	Thr	Gly	Gln	Ala	Ile	Ser	Asp	Thr	Pro	Ser	Ser	Leu	Pro	65	70	75	80
Gly	Tyr	Leu	Leu	Leu	Arg	Arg	Leu	Asp	Arg	Arg	Pro	Leu	Asp	Glu	Asp	85	90	95	
Ser	Ile	Lys	Ala	Leu	Val	Pro	Ala	Asp	Glu	Ala	Leu	Arg	Glu	Ala	Arg	100	105	110	
Arg	Ala	Leu	Pro	Phe	Gly	Arg	Gly	Asn	Ile	Asp	Val	Asp	Ala	Gln	Arg	115	120	125	
Thr	His	Leu	Gln	Ser	Gly	Ala	Arg	Ala	Val	Ala	Ala	Lys	Arg	Leu	Arg	130	135	140	
Lys	Asp	Ala	Glu	Arg	Ala	Gly	His	Glu	Pro	Met	Pro	Glu	Asn	Asp	Glu	145	150	155	160
Met	Asn	Trp	His	Val	Leu	Val	Ala	Met	Ser	Gly	Gln	Val	Phe	Gly	Ala	165	170	175	
Gly	Asn	Cys	Gly	Glu	His	Ala	Arg	Ile	Ala	Ser	Phe	Ala	Tyr	Gly	Ala	180	185	190	
Leu	Ala	Gln	Glu	Ser	Gly	Arg	Ser	Pro	Arg	Glu	Lys	Ile	His	Leu	Ala	195	200	205	
Glu	Gln	Pro	Gly	Lys	Asp	His	Val	Trp	Ala	Glu	Thr	Asp	Asn	Ser	Ser	210	215	220	
Ala	Gly	Ser	Ser	Pro	Ile	Val	Met	Asp	Pro	Trp	Ser	Asn	Gly	Ala	Ala	225	230	235	240
Ile	Leu	Ala	Glu	Asp	Ser	Arg	Phe	Ala	Lys	Asp	Arg	Ser	Ala	Val	Glu	245	250	255	

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 51

<211> 1143

<212> DNA

<213> *Pseudomonas syringae* pv. *angulata*

<400> 51

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gaaaaggctg ttcaatcatc atcggccag aaccccgctt cttacagttc acaaacagaa 120
cgctctgaag ccggttcgac tcaagtgcga ctgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg ccacgccatc ttcatgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctgggttcgg cagacgaagc ggtgcgtgaa gcacgcccg cggtgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtaccac ctgcaaagcg gcgctcgcg agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag ctctcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcatth ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccac gtcattggacc cgtggtctaa cggcgcagcc 720
atthttggcg aggacagccg gtttgccaaa gatcgagta cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaaccgc cgagaacgtt 840
ctgaccacac cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggcgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgcgcg acaagttgaa tagtgacgat ccacggcgctg cgttgcagat ggaaattgaa 1020
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195	200	205
Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser 210	215	220
Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala 225	230	235 240
Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Thr Val Glu 245	250	255
Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val 260	265	270
Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu 275	280	285
Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly 290	295	300
Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg 305	310	315 320
Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln 325	330	335
Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly 340	345	350
Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg 355	360	365
Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg 370	375	380

<210> 53

<211> 1155

<212> DNA

<213> *Pseudomonas syringae* pv. *delphinii*

<400> 53

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atgaaaatac ataacgctgg cccaagcatt ccgatgcccg ctccatcgat tgagagcgct 60
ggcaagactg cgcaatcatc attggctcaa ccgcagagcc aacgagccac ccccgctctcg 120
ccatcagaga cttctgatgc cgtccgtcc agtgtgcgta cgaactaccc ttattcatca 180
gtcaaaacac ggttgcctcc cgttgcgtct gcagggcagc cactgtccgg gatgccgtct 240
tcattacccg gctacttgct gttacgtcgg cttgaccatc gtccactgga tcaagacggt 300
atcaaaggtt tgattccagc agatgaagcg gtgggtgaag cacgtcgcgc gttgcctttc 360

```

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ggcaggggca atatcgacgt ggatgcgcaa cgctccaact tggaaagcgg agcccgcaca 420
ctcgcggtta ggcgtttgag aaaagatgcc gagggcgcgg gtcacgaacc aatgcctgca 480
aatgaagata tgaactggca tggttcttgtt gcgatgtcag gacaggtttt tggcgcaggt 540
aactgcgggg aacatgcccg catagcgagt ttgcctacg gtgcactggc tcaggaaaaa 600
gggcggaacg ccgatgagac tattcatttg gctgcgcaac gcggtaaaga ccacgtctgg 660
gctgaaacgg acaattcaag cgctggatct tcaccggttg tcatggatcc gtggtcgaac 720
ggtcctgcca tttttgcgga ggatagtcgg ttgcccagg atcgaagtac ggtagaacga 780
acggattcct tcacgcttgc aactgctgct gaagcaggca agatcacgcg agagacggcc 840
gagaatgctt tgacacaggc gaccagccgt ttgcagaaac gtcttgctga tcagaaaacg 900
caagtctcgc cgcttgcagg agggcgctat cggcaagaaa attcgggtgct tgatgacgcg 960
ttcgcccgac gggcaagtgg caagttgagc aacaaggatc cgcggcatgc attacaggtg 1020
gaaatcgagg cggccgcagt tgcaatgtcg ctgggcgccc aaggcgtaaa agcggttgcg 1080
gaacaggccc ggacggtagt tgaacaagcc aggaaggtcg catctcccca aggcacgcct 1140
cagcgagata cgtga 1155

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<210> 54

<211> 384

<212> PRT

<213> *Pseudomonas syringae* pv. *delphinii*

<400> 54

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Met Lys Ile His Asn Ala Gly Pro Ser Ile Pro Met Pro Ala Pro Ser
 1             5             10             15

Ile Glu Ser Ala Gly Lys Thr Ala Gln Ser Ser Leu Ala Gln Pro Gln
      20             25             30

Ser Gln Arg Ala Thr Pro Val Ser Pro Ser Glu Thr Ser Asp Ala Arg
      35             40             45

Pro Ser Ser Val Arg Thr Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg
      50             55             60

Leu Pro Pro Val Ala Ser Ala Gly Gln Pro Leu Ser Gly Met Pro Ser
      65             70             75             80

Ser Leu Pro Gly Tyr Leu Leu Leu Arg Arg Leu Asp His Arg Pro Leu
      85             90             95

Asp Gln Asp Gly Ile Lys Gly Leu Ile Pro Ala Asp Glu Ala Val Gly
      100             105             110

Glu Ala Arg Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp
      115             120             125

Ala Gln Arg Ser Asn Leu Glu Ser Gly Ala Arg Thr Leu Ala Ala Arg
      130             135             140

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Arg	Leu	Arg	Lys	Asp	Ala	Glu	Ala	Ala	Gly	His	Glu	Pro	Met	Pro	Ala	
145					150					155					160	
Asn	Glu	Asp	Met	Asn	Trp	His	Val	Leu	Val	Ala	Met	Ser	Gly	Gln	Val	
				165					170					175		
Phe	Gly	Ala	Gly	Asn	Cys	Gly	Glu	His	Ala	Arg	Ile	Ala	Ser	Phe	Ala	
			180					185					190			
Tyr	Gly	Ala	Leu	Ala	Gln	Glu	Lys	Gly	Arg	Asn	Ala	Asp	Glu	Thr	Ile	
	195						200					205				
His	Leu	Ala	Ala	Gln	Arg	Gly	Lys	Asp	His	Val	Trp	Ala	Glu	Thr	Asp	
	210					215					220					
Asn	Ser	Ser	Ala	Gly	Ser	Ser	Pro	Val	Val	Met	Asp	Pro	Trp	Ser	Asn	
225					230					235					240	
Gly	Pro	Ala	Ile	Phe	Ala	Glu	Asp	Ser	Arg	Phe	Ala	Lys	Asp	Arg	Ser	
			245						250					255		
Thr	Val	Glu	Arg	Thr	Asp	Ser	Phe	Thr	Leu	Ala	Thr	Ala	Ala	Glu	Ala	
		260						265				270				
Gly	Lys	Ile	Thr	Arg	Glu	Thr	Ala	Glu	Asn	Ala	Leu	Thr	Gln	Ala	Thr	
	275						280					285				
Ser	Arg	Leu	Gln	Lys	Arg	Leu	Ala	Asp	Gln	Lys	Thr	Gln	Val	Ser	Pro	
	290					295					300					
Leu	Ala	Gly	Gly	Arg	Tyr	Arg	Gln	Glu	Asn	Ser	Val	Leu	Asp	Asp	Ala	
305					310					315					320	
Phe	Ala	Arg	Arg	Ala	Ser	Gly	Lys	Leu	Ser	Asn	Lys	Asp	Pro	Arg	His	
				325					330					335		
Ala	Leu	Gln	Val	Glu	Ile	Glu	Ala	Ala	Ala	Val	Ala	Met	Ser	Leu	Gly	
		340						345					350			
Ala	Gln	Gly	Val	Lys	Ala	Val	Ala	Glu	Gln	Ala	Arg	Thr	Val	Val	Glu	
	355						360					365				
Gln	Ala	Arg	Lys	Val	Ala	Ser	Pro	Gln	Gly	Thr	Pro	Gln	Arg	Asp	Thr	
	370					375					380					

<210> 55
 <211> 951
 <212> DNA
 <213> *Pseudomonas syringae* pv. *delphinii*

<400> 55
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 agccaaaatc aggtccgacg acgcttttga attacggtga atcagatgca aaagacgtcc 120
 ctattggctt tggcctttgc aatcctggca ggggtgtggg gttcggggca ggcgccgggg 180
 agtgatattc aggggtgcca ggcagagatg aaaacaccca ttaaagtaga tctggatgcc 240
 tacacctcaa aaaaacttga tgctgtgttg gaagctcggg ccaataaaaag ctatgtgaat 300
 aaaggtcaac tgatcgacct tgtgtcaggg gcgttttttg gaacaccgta ccgctcaaac 360
 atgttggtgg gcacagagga aatacctgaa cagttagtca tcgacttttag aggtctggat 420
 tgttttgctt atctggatta cgtagaggcg ttgcgaagat caacatcgca gcaggatttt 480
 gtgaggaatc tcgttcaggt tcgttacaag ggtggtgatg ttgacttttt gaatcgcaag 540
 cactttttca cggattgggc ttatggcact acacaccggg tggcggatga catcaccacg 600
 cagataagcc ccggtgcggt aagtgtcaga aaacgcctta atgaaagggc caaaggcaaa 660
 gtctatctgc caggttttgcc tgtggttgag cgcagcatga cctatatccc gagccgcctt 720
 gtcgacagtc aggtggtaag ccacttgccg acaggtgatt acatcggcat ttacaccccg 780
 cttcccgggc tggatgtgac gcacgtcggg ttctttatca tgacggataa aggccctgtc 840
 ttgcgaaatg catcttcacg aaaagaaaac agaaaggtaa tggatttgcc ttttctggac 900
 tatgtatcgg aaaagccagg gattgttgtt ttcagggcaa aagacaattg a 951

<210> 56
 <211> 316
 <212> PRT
 <213> *Pseudomonas syringae* pv. *delphinii*

<400> 56
 Val Val Glu Arg Thr Gly Thr Ala Tyr Arg Arg Arg Gly Ala Ala Cys
 1 5 10 15
 Ser Arg Ile Thr Ser Gln Asn Gln Val Arg Arg Arg Phe Gly Ile Thr
 20 25 30
 Val Asn Gln Met Gln Lys Thr Ser Leu Leu Ala Leu Ala Phe Ala Ile
 35 40 45
 Leu Ala Gly Cys Gly Gly Ser Gly Gln Ala Pro Gly Ser Asp Ile Gln
 50 55 60
 Gly Ala Gln Ala Glu Met Lys Thr Pro Ile Lys Val Asp Leu Asp Ala
 65 70 75 80
 Tyr Thr Ser Lys Lys Leu Asp Ala Val Leu Glu Ala Arg Ala Asn Lys

85					90					95						
Ser	Tyr	Val	Asn	Lys	Gly	Gln	Leu	Ile	Asp	Leu	Val	Ser	Gly	Ala	Phe	
100					105					110						
Leu	Gly	Thr	Pro	Tyr	Arg	Ser	Asn	Met	Leu	Val	Gly	Thr	Glu	Glu	Ile	
115					120					125						
Pro	Glu	Gln	Leu	Val	Ile	Asp	Phe	Arg	Gly	Leu	Asp	Cys	Phe	Ala	Tyr	
130					135					140						
Leu	Asp	Tyr	Val	Glu	Ala	Leu	Arg	Arg	Ser	Thr	Ser	Gln	Gln	Asp	Phe	
145					150					155					160	
Val	Arg	Asn	Leu	Val	Gln	Val	Arg	Tyr	Lys	Gly	Gly	Asp	Val	Asp	Phe	
165					170					175						
Leu	Asn	Arg	Lys	His	Phe	Phe	Thr	Asp	Trp	Ala	Tyr	Gly	Thr	Thr	His	
180					185					190						
Pro	Val	Ala	Asp	Asp	Ile	Thr	Thr	Gln	Ile	Ser	Pro	Gly	Ala	Val	Ser	
195					200					205						
Val	Arg	Lys	Arg	Leu	Asn	Glu	Arg	Ala	Lys	Gly	Lys	Val	Tyr	Leu	Pro	
210					215					220						
Gly	Leu	Pro	Val	Val	Glu	Arg	Ser	Met	Thr	Tyr	Ile	Pro	Ser	Arg	Leu	
225					230					235					240	
Val	Asp	Ser	Gln	Val	Val	Ser	His	Leu	Arg	Thr	Gly	Asp	Tyr	Ile	Gly	
245					250					255						
Ile	Tyr	Thr	Pro	Leu	Pro	Gly	Leu	Asp	Val	Thr	His	Val	Gly	Phe	Phe	
260					265					270						
Ile	Met	Thr	Asp	Lys	Gly	Pro	Val	Leu	Arg	Asn	Ala	Ser	Ser	Arg	Lys	
275					280					285						
Glu	Asn	Arg	Lys	Val	Met	Asp	Leu	Pro	Phe	Leu	Asp	Tyr	Val	Ser	Glu	
290					295					300						
Lys	Pro	Gly	Ile	Val	Val	Phe	Arg	Ala	Lys	Asp	Asn					
305					310					315						

<210> 57
 <211> 396
 <212> DNA

<213> Pseudomonas syringae pv. delphinii

<400> 57

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atgaaaaact catttgatct tcttgctgac ggtttggcga aagactacag catgccgaat 60
ttgccgaaca agaaacacga caatgaagtc tattgcttca cattccagag cgggctcgaa 120
gtaaacattt atcaggacga ctgtcgatgg gtgcatttct ccgccacaat cggacaattt 180
caagacgcca gcaatgacac gctcagccac gcacttcaac tgaacaattt cagtcttgga 240
aagcccttct tcacctttgg aatgaacgga gaaaaggctg gcgtacttca cacacgcgtt 300
ccgttgattg aaatgaatac cgttgaaatg cgcaaggat tgcaggactt gctcgatgta 360
gcaggcggca tcagagcgac attcaagctc agttaa 396
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<210> 58

<211> 131

<212> PRT

<213> Pseudomonas syringae pv. delphinii

<400> 58

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Met Lys Asn Ser Phe Asp Leu Leu Val Asp Gly Leu Ala Lys Asp Tyr
  1              5              10              15

Ser Met Pro Asn Leu Pro Asn Lys Lys His Asp Asn Glu Val Tyr Cys
          20              25              30

Phe Thr Phe Gln Ser Gly Leu Glu Val Asn Ile Tyr Gln Asp Asp Cys
      35              40              45

Arg Trp Val His Phe Ser Ala Thr Ile Gly Gln Phe Gln Asp Ala Ser
      50              55              60

Asn Asp Thr Leu Ser His Ala Leu Gln Leu Asn Asn Phe Ser Leu Gly
      65              70              75              80

Lys Pro Phe Phe Thr Phe Gly Met Asn Gly Glu Lys Val Gly Val Leu
          85              90              95

His Thr Arg Val Pro Leu Ile Glu Met Asn Thr Val Glu Met Arg Lys
      100              105              110

Val Phe Glu Asp Leu Leu Asp Val Ala Gly Gly Ile Arg Ala Thr Phe
      115              120              125

Lys Leu Ser
      130
```

<210> 59

<211> 648

<212> DNA

<213> *Pseudomonas syringae* pv. *delphinii*

<400> 59

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cgaaatatgt ctggctcgcc cacaccgagt caccgtattg gcgggggaaac cctgacctct 120
attcatcagc tctctgccag ccagagagaa caatttctga atactcatga ccccatgaga 180
aaactcagga ttaacaatga tacgccactg tacagaacaa ccgagaagcg ttttatacag 240
gaaggcaaac tggccggcaa tccaaagtct attgcacgtg tcaacttgca cgaagaactg 300
cagcttaatc cgctcgccag tatttttaggg aacttacctc acgaggcaag cgcttacttt 360
ccgaaaagcg cccgcgctgc ggatctgaaa gacccttcat tgaatgtaat gacaggctct 420
cgggcaaaaa atgctattcg cggctacgct catgacgacc atgtggcggg caagatgcga 480
ctgggcgact ttcttgaaaa aggcggcaag gtgtacgcgg acacttcacg agtcattgac 540
ggcggagacg aggcgagcgc gctgatcggt acattgccta aaggacaaaa agttccagtc 600
gagattatcc ctacccataa cgacaacagc aataaaggca gaggctga 648
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<210> 60

<211> 215

<212> PRT

<213> *Pseudomonas syringae* pv. *delphinii*

<400> 60

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Met Ser Thr Ile Pro Gly Thr Ser Gly Ala His Pro Ile Tyr Ser Ser
  1             5             10             15

Ile Ser Ser Pro Arg Asn Met Ser Gly Ser Pro Thr Pro Ser His Arg
      20             25             30

Ile Gly Gly Glu Thr Leu Thr Ser Ile His Gln Leu Ser Ala Ser Gln
      35             40             45

Arg Glu Gln Phe Leu Asn Thr His Asp Pro Met Arg Lys Leu Arg Ile
      50             55             60

Asn Asn Asp Thr Pro Leu Tyr Arg Thr Thr Glu Lys Arg Phe Ile Gln
      65             70             75             80

Glu Gly Lys Leu Ala Gly Asn Pro Lys Ser Ile Ala Arg Val Asn Leu
      85             90             95

His Glu Glu Leu Gln Leu Asn Pro Leu Ala Ser Ile Leu Gly Asn Leu
      100            105            110

Pro His Glu Ala Ser Ala Tyr Phe Pro Lys Ser Ala Arg Ala Ala Asp
      115            120            125

Leu Lys Asp Pro Ser Leu Asn Val Met Thr Gly Ser Arg Ala Lys Asn
```

130	135	140
Ala Ile Arg Gly Tyr	Ala His Asp Asp His Val	Ala Val Lys Met Arg
145	150	155 160
Leu Gly Asp Phe Leu Glu Lys Gly Gly Lys Val Tyr Ala Asp Thr Ser		
	165	170 175
Ser Val Ile Asp Gly Gly Asp Glu Ala Ser Ala Leu Ile Val Thr Leu		
	180	185 190
Pro Lys Gly Gln Lys Val Pro Val Glu Ile Ile Pro Thr His Asn Asp		
	195	200 205
Asn Ser Asn Lys Gly Arg Gly		
	210	215

<210> 61
 <211> 1128
 <212> DNA
 <213> *Pseudomonas syringae* pv. *syringae*

<400> 61
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 attcaggcaa tcaaatccga gggtcagttg gaagtcaacg gcaagcgta cgagattcgt 120
 gcggccgctg acggctcaat cgcggtcctc agacccgatc aacagtccaa agcagacaag 180
 ttcttcaaag gcgcagcgca tcttattggc ggacaaagcc agcgtgcca aatagcccag 240
 gtactcaacg agaaagcggc ggcagttcca cgcctggaca gaatgttggg cagacgcttc 300
 gatctggaga agggcggaag tagcgtgtg ggcgccgcaa tcaaggctgc cgacagccga 360
 ctgacatcaa aacagacatt tgccagcttc cagcaatggg ctgaaaaagc tgaggcgctc 420
 gggcgcgata ccgaaatcgg tatctacatg atctacaaga gggacacgcc agacacaacg 480
 cctatgaatg cggcagagca agaacattac ctggaaacgc tacaggctct cgataacaag 540
 aaaaacctta tcatacgccc gcagatccat gatgatcggg aagaggaaga gcttgatctg 600
 ggccgataca tcgctgaaga cagaaatgcc agaaccggct tttttagaat ggttcctaaa 660
 gaccaacgcg cacctgagac aaactcggga cgacttacca ttggtgtaga acctaaatat 720
 ggagcgcagt tggccctcgc aatggcaacc ctgatggaca agcacaatc tgtgacacaa 780
 ggtaaagtcg tcggtccggc aaaatatggc cagcaaactg actctgccat tctttacata 840
 aatgggtgatc ttgcaaaagc agtaaaactg ggcgaaaagc tgaaaaagct gagcggtatc 900
 cctcctgaag gattcgtcga acatacaccg ctaagcatgc agtcgacggg tctcgggtctt 960
 tcttatgccg agtcggttga agggcagcct tccagccacg gacaggcgag aacacacggt 1020
 atcatggatg ccttgaaagg ccagggcccc atggagaaca gactcaaaat ggcgctggca 1080
 gaaagaggct atgacccgga aaatccggcg ctcagggcgc gaaactga 1128

<210> 62
 <211> 375
 <212> PRT

<213> Pseudomonas syringae pv. syringae

<400> 62

Val Asn Pro Ile His Ala Arg Phe Ser Ser Val Glu Ala Leu Arg His
1 5 10 15

Ser Asn Val Asp Ile Gln Ala Ile Lys Ser Glu Gly Gln Leu Glu Val
20 25 30

Asn Gly Lys Arg Tyr Glu Ile Arg Ala Ala Ala Asp Gly Ser Ile Ala
35 40 45

Val Leu Arg Pro Asp Gln Gln Ser Lys Ala Asp Lys Phe Phe Lys Gly
50 55 60

Ala Ala His Leu Ile Gly Gly Gln Ser Gln Arg Ala Gln Ile Ala Gln
65 70 75 80

Val Leu Asn Glu Lys Ala Ala Ala Val Pro Arg Leu Asp Arg Met Leu
85 90 95

Gly Arg Arg Phe Asp Leu Glu Lys Gly Gly Ser Ser Ala Val Gly Ala
100 105 110

Ala Ile Lys Ala Ala Asp Ser Arg Leu Thr Ser Lys Gln Thr Phe Ala
115 120 125

Ser Phe Gln Gln Trp Ala Glu Lys Ala Glu Ala Leu Gly Arg Asp Thr
130 135 140

Glu Ile Gly Ile Tyr Met Ile Tyr Lys Arg Asp Thr Pro Asp Thr Thr
145 150 155 160

Pro Met Asn Ala Ala Glu Gln Glu His Tyr Leu Glu Thr Leu Gln Ala
165 170 175

Leu Asp Asn Lys Lys Asn Leu Ile Ile Arg Pro Gln Ile His Asp Asp
180 185 190

Arg Glu Glu Glu Glu Leu Asp Leu Gly Arg Tyr Ile Ala Glu Asp Arg
195 200 205

Asn Ala Arg Thr Gly Phe Phe Arg Met Val Pro Lys Asp Gln Arg Ala
210 215 220

Pro Glu Thr Asn Ser Gly Arg Leu Thr Ile Gly Val Glu Pro Lys Tyr
225 230 235 240

Gly Ala Gln Leu Ala Leu Ala Met Ala Thr Leu Met Asp Lys His Lys
245 250 255

Ser Val Thr Gln Gly Lys Val Val Gly Pro Ala Lys Tyr Gly Gln Gln
260 265 270

Thr Asp Ser Ala Ile Leu Tyr Ile Asn Gly Asp Leu Ala Lys Ala Val
275 280 285

Lys Leu Gly Glu Lys Leu Lys Lys Leu Ser Gly Ile Pro Pro Glu Gly
290 295 300

Phe Val Glu His Thr Pro Leu Ser Met Gln Ser Thr Gly Leu Gly Leu
305 310 315 320

Ser Tyr Ala Glu Ser Val Glu Gly Gln Pro Ser Ser His Gly Gln Ala
325 330 335

Arg Thr His Val Ile Met Asp Ala Leu Lys Gly Gln Gly Pro Met Glu
340 345 350

Asn Arg Leu Lys Met Ala Leu Ala Glu Arg Gly Tyr Asp Pro Glu Asn
355 360 365

Pro Ala Leu Arg Ala Arg Asn
370 375

<210> 63

<211> 1149

<212> DNA

<213> *Pseudomonas syringae* pv. *atrofaciens*

<400> 63

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gcggtgccca ataacgacct gactgtccag cgttctgaca aacagatggc gatgagcaag 180
tttttcaaaa aagcagggtt aagtgggagt tccggcagtc agtccgatca aattgcgcag 240
gtactgaatg acaagcgcggt ctcttccggt ccccgcttta tacgccaggg gcagacccat 300
ctggggccgta tgcaattcaa catcgaagag gggcaaggca gttcggccgc cacgtccgtc 360
cagaacagca ggctgcccac tggccgcttg gtaaacagca gtattttgca atgggtcgaa 420
aaggcgaaag ccaatggcag cacaagtacc agtgctcttt atcagatcta cgcaaaagaa 480
ctcccgcgtg tagaactgct gccacgcact gagcaccggg cgtgtctggc gcatatgtat 540
aagctgaacg gtaaggacgg tatcagtatt tggccgcagt ttctggatgg cgtgcgcggg 600
ttgcagctaa aacatgacac aaaagtgttc atgatgaaca accccaaagc agcggacgag 660
ttctacaaga tcgaacgttc gggcacgcaa tttccggatg aggtgtcaa ggcgcgctg 720
acgataaatg taaaacctca attccagaag gccatggctg acgcagcggc caggttgacc 780
gctgagcgtc acgatatcat tactgccaaa gtggcaggtc ctgcaaagat tggcacgatt 840
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acagatgcag cggtttttcta tgtaagcgga gattttttccg ctgcgcagac acttgcaaaa 900
gagcttcagg cactgctccc tgacgatgcg tttatcaatc atacgccagc tggaatgcaa 960
tccatgggca aggggctgtg ttacgccgag cgtacaccgc aggacaggac aagccacgga 1020
atgtcgcgcg ccagcataat cgagtcggca ctggcagaca ccagcaggtc gtcactggag 1080
aagaagctgc gcaatgcttt caagagcgcc ggatacaatc ccgacaaccc ggcattcagg 1140
ttggaatga 1149

<210> 64

<211> 382

<212> PRT

<213> *Pseudomonas syringae* pv. *atrofaciens*

<400> 64

Met Asn Pro Ile Gln Thr Arg Phe Ser Asn Val Glu Ala Leu Arg His
1 5 10 15

Ser Glu Val Asp Val Gln Glu Leu Lys Ala His Gly Gln Ile Glu Val
20 25 30

Gly Gly Lys Cys Tyr Asp Ile Arg Ala Ala Ala Asn Asn Asp Leu Thr
35 40 45

Val Gln Arg Ser Asp Lys Gln Met Ala Met Ser Lys Phe Phe Lys Lys
50 55 60

Ala Gly Leu Ser Gly Ser Ser Gly Ser Gln Ser Asp Gln Ile Ala Gln
65 70 75 80

Val Leu Asn Asp Lys Arg Gly Ser Ser Val Pro Arg Leu Ile Arg Gln
85 90 95

Gly Gln Thr His Leu Gly Arg Met Gln Phe Asn Ile Glu Glu Gly Gln
100 105 110

Gly Ser Ser Ala Ala Thr Ser Val Gln Asn Ser Arg Leu Pro Asn Gly
115 120 125

Arg Leu Val Asn Ser Ser Ile Leu Gln Trp Val Glu Lys Ala Lys Ala
130 135 140

Asn Gly Ser Thr Ser Thr Ser Ala Leu Tyr Gln Ile Tyr Ala Lys Glu
145 150 155 160

Leu Pro Arg Val Glu Leu Leu Pro Arg Thr Glu His Arg Ala Cys Leu
165 170 175

Ala His Met Tyr Lys Leu Asn Gly Lys Asp Gly Ile Ser Ile Trp Pro

180					185					190					
Gln	Phe	Leu	Asp	Gly	Val	Arg	Gly	Leu	Gln	Leu	Lys	His	Asp	Thr	Lys
195					200					205					
Val	Phe	Met	Met	Asn	Asn	Pro	Lys	Ala	Ala	Asp	Glu	Phe	Tyr	Lys	Ile
210					215					220					
Glu	Arg	Ser	Gly	Thr	Gln	Phe	Pro	Asp	Glu	Ala	Val	Lys	Ala	Arg	Leu
225					230					235					240
Thr	Ile	Asn	Val	Lys	Pro	Gln	Phe	Gln	Lys	Ala	Met	Val	Asp	Ala	Ala
245					250					255					
Val	Arg	Leu	Thr	Ala	Glu	Arg	His	Asp	Ile	Ile	Thr	Ala	Lys	Val	Ala
260					265					270					
Gly	Pro	Ala	Lys	Ile	Gly	Thr	Ile	Thr	Asp	Ala	Ala	Val	Phe	Tyr	Val
275					280					285					
Ser	Gly	Asp	Phe	Ser	Ala	Ala	Gln	Thr	Leu	Ala	Lys	Glu	Leu	Gln	Ala
290					295					300					
Leu	Leu	Pro	Asp	Asp	Ala	Phe	Ile	Asn	His	Thr	Pro	Ala	Gly	Met	Gln
305					310					315					320
Ser	Met	Gly	Lys	Gly	Leu	Cys	Tyr	Ala	Glu	Arg	Thr	Pro	Gln	Asp	Arg
325					330					335					
Thr	Ser	His	Gly	Met	Ser	Arg	Ala	Ser	Ile	Ile	Glu	Ser	Ala	Leu	Ala
340					345					350					
Asp	Thr	Ser	Arg	Ser	Ser	Leu	Glu	Lys	Lys	Leu	Arg	Asn	Ala	Phe	Lys
355					360					365					
Ser	Ala	Gly	Tyr	Asn	Pro	Asp	Asn	Pro	Ala	Phe	Arg	Leu	Glu		
370					375					380					

<210> 65

<211> 1464

<212> DNA

<213> Pseudomonas syringae pv. tomato

<400> 65

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atgcacatca accaatccgc ccaacaaccg cctggcggttg caatggagag ttttcggaca 60
gcttccgacg cgtcccttgc ttcgagttot gtgcggtctg tcagcactac ctcgtgccgc 120
gatctacaag ctattaccga ttatctgaaa catcacgtgt tcgctgcgca cagggttttcg 180

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gtaataggct caccggatga gcgtgatgcc gctcttgac acaacgagca gatcgatgcg 240
ttggtagaga cacgcgccaa ccgcctgtac tcogaagggg agacccccgc aaccatcgcc 300
gaaacattcg ccaaggcgga aaagttcgac cgtttggcga cgaccgcac aagtgccttt 360
gagaacacgc catttgccgc tgcctcgggtg cttcagtaca tgcagcctgc gatcaacaag 420
ggcgattggc tagcaacgcc gctcaagccg ctgacccccgc tcatttccgg agcgctgtcg 480
ggagccatgg accaggtggg caccaaaatg atggatcgtg cgaggggtga tctgcattac 540
ctgagcactt cgccggacaa gttgcatgat gcgatggccg tatcggtgaa gcgccactcg 600
cctgcgcttg gtcgacaggt tgtggacatg gggattgcag tgcagacggt ctcggcgcta 660
aatgtggtgc gtaccgtatt ggctccagca ctagcgtcca gaccgtcggg gcaggggtgct 720
gttgattttg gcgtatctac ggcggttggc ttggttgcca atgcaggctt tggcgaccgc 780
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gcggttaaga aagccgagtc gtttatacag gataaggtga aatcgaccgc atctagtacc 1260
acaagctatg ttgccgacca gaccgtcaaa ctggcgaaaa cagtcaagga catgagcggg 1320
gaggcgatct ccagcaccgg tgccagctta cgcagtactg tcaataacct gcgtcatcgc 1380
tccgctccgg aagctgatat cgaagaaggt gggatttcgg cgttttctcg aagtgaaca 1440
ccgtttcagc tcaggcgttt gtaa 1464

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<210> 66

<211> 487

<212> PRT

<213> *Pseudomonas syringae* pv. *tomato*

<400> 66

Met His Ile Asn Gln Ser Ala Gln Gln Pro Pro Gly Val Ala Met Glu
1 5 10 15

Ser Phe Arg Thr Ala Ser Asp Ala Ser Leu Ala Ser Ser Ser Val Arg
20 25 30

Ser Val Ser Thr Thr Ser Cys Arg Asp Leu Gln Ala Ile Thr Asp Tyr
35 40 45

Leu Lys His His Val Phe Ala Ala His Arg Phe Ser Val Ile Gly Ser
50 55 60

Pro Asp Glu Arg Asp Ala Ala Leu Ala His Asn Glu Gln Ile Asp Ala
65 70 75 80

Leu Val Glu Thr Arg Ala Asn Arg Leu Tyr Ser Glu Gly Glu Thr Pro
85 90 95

Ala Thr Ile Ala Glu Thr Phe Ala Lys Ala Glu Lys Phe Asp Arg Leu	100	105	110
Ala Thr Thr Ala Ser Ser Ala Phe Glu Asn Thr Pro Phe Ala Ala Ala	115	120	125
Ser Val Leu Gln Tyr Met Gln Pro Ala Ile Asn Lys Gly Asp Trp Leu	130	135	140
Ala Thr Pro Leu Lys Pro Leu Thr Pro Leu Ile Ser Gly Ala Leu Ser	145	150	155
Gly Ala Met Asp Gln Val Gly Thr Lys Met Met Asp Arg Ala Arg Gly	165	170	175
Asp Leu His Tyr Leu Ser Thr Ser Pro Asp Lys Leu His Asp Ala Met	180	185	190
Ala Val Ser Val Lys Arg His Ser Pro Ala Leu Gly Arg Gln Val Val	195	200	205
Asp Met Gly Ile Ala Val Gln Thr Phe Ser Ala Leu Asn Val Val Arg	210	215	220
Thr Val Leu Ala Pro Ala Leu Ala Ser Arg Pro Ser Val Gln Gly Ala	225	230	235
Val Asp Phe Gly Val Ser Thr Ala Gly Gly Leu Val Ala Asn Ala Gly	245	250	255
Phe Gly Asp Arg Met Leu Ser Val Gln Ser Arg Asp Gln Leu Arg Gly	260	265	270
Gly Ala Phe Val Leu Gly Met Lys Asp Lys Glu Pro Lys Ala Ala Leu	275	280	285
Ser Glu Glu Thr Asp Trp Leu Asp Ala Tyr Lys Ala Ile Lys Ser Ala	290	295	300
Ser Tyr Ser Gly Ala Ala Leu Asn Ala Gly Lys Arg Met Ala Gly Leu	305	310	315
Pro Leu Asp Val Ala Thr Asp Gly Leu Lys Ala Val Arg Ser Leu Val	325	330	335
Ser Ala Thr Ser Leu Thr Lys Asn Gly Leu Ala Leu Ala Gly Gly Tyr	340	345	350

Ala Gly Val Ser Lys Leu Gln Lys Met Ala Thr Lys Asn Ile Thr Asp
 355 360 365

Ser Ala Thr Lys Ala Ala Val Ser Gln Leu Ser Asn Leu Val Gly Ser
 370 375 380

Val Gly Val Phe Ala Gly Trp Thr Thr Ala Gly Leu Ala Thr Asp Pro
 385 390 395 400

Ala Val Lys Lys Ala Glu Ser Phe Ile Gln Asp Lys Val Lys Ser Thr
 405 410 415

Ala Ser Ser Thr Thr Ser Tyr Val Ala Asp Gln Thr Val Lys Leu Ala
 420 425 430

Lys Thr Val Lys Asp Met Ser Gly Glu Ala Ile Ser Ser Thr Gly Ala
 435 440 445

Ser Leu Arg Ser Thr Val Asn Asn Leu Arg His Arg Ser Ala Pro Glu
 450 455 460

Ala Asp Ile Glu Glu Gly Gly Ile Ser Ala Phe Ser Arg Ser Glu Thr
 465 470 475 480

Pro Phe Gln Leu Arg Arg Leu
 485

<210> 67
 <211> 88
 <212> DNA
 <213> Pseudomonas syringae pv. tomato

<400> 67
 gccctgatgg cggaattggt agacgcggcg gattcaaaat ccgttttcga aagaagtggg 60
 agttcgattc tccctcgggg caccacca 88

<210> 68
 <211> 85
 <212> DNA
 <213> Pseudomonas syringae pv. syringae

<400> 68
 gccctgatgg cggaattggt agacgcggcg gattcaaaat ccgttttcga aagaagtggg 60
 agttcgattc tccctcgggg cacca 85

<210> 69
 <211> 1065
 <212> DNA
 <213> Pseudomonas syringae pv. tomato

<400> 69
 atgcgcgtcg ctgactttac cttcgaactc cccgattccc tgattgctcg tcacccggtg 60
 gccgagcgtc gcagcagtcg tctgttgacc cttgatgggc cgacggggcg gctggcacat 120
 cgtcaattca ccgattttgct cgagcatttg cgctcggggc acttgatggt gttcaacaat 180
 acccgtgtca ttcccgcacg tttgttcggg cagaaggcgt ccggcggcaa gctggagatt 240
 ctggtcgagc gcgtgctgga cagccatcgt gtgctggcg acgtgcgtgc cagcaagtcg 300
 ccaaagccgg gctcgtcgat cctgatcgat ggcgggcgcg aggccgagat ggtggcgcg 360
 catgacgcgc tgttcgagtt gcgctttgcc gaagaagtgc tgccgttgct ggatcgtgtc 420
 ggccatatgc cgttgcctcc ttatatagac cgcccggacg aaggtgccga ccgcgagcgt 480
 tatcagaccg tttagcccca gcgcgccggt gctgtggcgg cgccgactgc cggcctgcat 540
 ttcgaccage cgttgatgga agcaattgcc gccaaagggc tcgagactgc ttttgtcact 600
 ctgcacgtcg gcgcgggtac gttccagccg gtgcgtgtcg agcagatcga agatcaccac 660
 atgcacagcg aatggctgga agtcagccag gacgtggtcg atgccgtggc ggcgtgccgt 720
 gcgcggggcg ggcggggtgat tgcggtcggg accaccagcg tgcgttcgct ggagagtgcc 780
 gcgcgtgatg gccagttgaa gccgttttagc ggcgacaccg acatcttcat ctatccgggg 840
 cggccgtttc atgtggtcga tgccttggtg actaattttc atttgcctga atccacgctg 900
 ttgatgctgg tttcggcggt cgccggttat cccgaaacca tggcggccta cgcggcgggc 960
 atcgaacacg ggtaccgctt cttcagttac ggtgatgcca tgttcatcac ccgcaatccc 1020
 gcgccgacgg cccacacagga atcggcacca gaggatcac catga 1065

<210> 70
 <211> 354
 <212> PRT
 <213> Pseudomonas syringae pv. tomato

<400> 70
 Met Arg Val Ala Asp Phe Thr Phe Glu Leu Pro Asp Ser Leu Ile Ala
 1 5 10 15
 Arg His Pro Leu Ala Glu Arg Arg Ser Ser Arg Leu Leu Thr Leu Asp
 20 25 30
 Gly Pro Thr Gly Ala Leu Ala His Arg Gln Phe Thr Asp Leu Leu Glu
 35 40 45
 His Leu Arg Ser Gly Asp Leu Met Val Phe Asn Asn Thr Arg Val Ile
 50 55 60
 Pro Ala Arg Leu Phe Gly Gln Lys Ala Ser Gly Gly Lys Leu Glu Ile
 65 70 75 80
 Leu Val Glu Arg Val Leu Asp Ser His Arg Val Leu Ala His Val Arg

340

345

350

His Ala

<210> 71

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 71

atgactcgag gcgtggattc aggcaaatt

28

<210> 72

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 72

atgagaattc tgccgccgct ttctcgtt

28

<210> 73

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 73

cgctctagac caaggactgc

20

<210> 74

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 74

ccagaagctt ctgtttttga gtc

23

<210> 75

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 75

agtaggatcc tgaaatgtag gggcccgg

28

<210> 76

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 76

agtaaagctt atgatgctgt ttccagta

28

<210> 77

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 77

agtaggatcc tctcgaagga atggagca

28

<210> 78

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 78

agtaaagctt cgtgaagatg catttcgc

28

<210> 79

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 79

agtaggatcc tagtcactga tcgaacgt

28

<210> 80

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 80

agtactcgag ccacgaaata acacggta

28

<210> 81

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 81

agtaggatcc caggactgcc ttccagcg

28

<210> 82

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 82

agtactcgag cagagcggcg tccgtggc

28

<210> 83

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 83

agtaggatcc agaattgttg aagaaatc

28

<210> 84

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 84

agtaaagctt tgcgctgtta actcatcg

28

<210> 85

<211> 82

<212> DNA

<213> Pseudomonas syringae pv. tomato

<400> 85

ggggcaccac cattgagaaa agaccttgaa attcaaggtc ttttttttcg tctgggtggaa 60

agtgggtctga ctgaggctgc ga

82

<210> 86

<211> 82

<212> DNA

<213> Pseudomonas syringae pv. syringae

<400> 86

ggggcaccac atagcagtat ccagagggtcc caaccagccc cgcaacacca gataaaccgg 60

cccacgagcc gggtttttttg tg

82

<210> 87
<211> 81
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 87
ggggcaccac ctttaaaaaa gaccttgaaa ttcaaggtct tttttttcgt ctggtggaaa 60
gtgccttgat ccaatcctcg c 81

<210> 88
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 88
gcccggggcgt gacgctgccc gggccccgac atttcagtca atcaatgcgc cttcgcaatc 60
ccgaactgat caagcaccgg at 82

<210> 89
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 89
gaaggctcag cattcagggc gtctgagccg actcaattca atcaatgcgc cttgtcaatc 60
ccgaactgat ccagcaccgg gt 82

<210> 90
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 90
gaggaagagg cttgaaaaag agttcaacct cttccctgct atcaatgcgc cctgtcaatc 60
ccgaactgat ccagcaccgg gt 82

<210> 91
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: human
immunodeficiency virus TAT protein, transduction
domain

<400> 91

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5 10